

WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶:

A61C 8/00

A1

(11) International Publication Number: WO 99/23971

(43) International Publication Date: 20 May 1999 (20.05.99)

(21) International Application Number: PCT/SE98/01982

(22) International Filing Date: 3 November 1998 (03.11.98)

(30) Priority Data:

9704112–3 11 Novem

11 November 1997 (11.11.97) SE

(71) Applicant (for all designated States except US): NOBEL BIOCARE AB (publ) [SE/SE]; P.O. Box 5190, S-402 26 Göteborg (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CARLSSON, Lennart [SE/SE]; Matildebergsgatan 36, S-431 38 Göteborg (SE). ENGMAN, Fredrik [SE/SE]; Häggvägen 19, S-435 37 Mölnlycke (SE). FROMELL, Roger [SE/SE]; Malörtsvägen 11, S-449 33 Nödinge (SE). JÖRNÉUS, Lars [SE/SE]; Riabergsvägen 7B, S-430 30 Frillesås (SE).

(74) Agent: OLSSON, Gunnar; Nobel Biocare AB (publ), P.O. Box 5190, S-402 26 Göteborg (SE).

(81) Designated States: AU, BR, CA, IL, JP, MX, NO, PL, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published

With international search report.

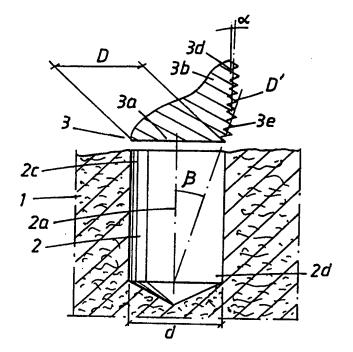
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

In English translation (filed in Swedish).

(54) Title: ARRANGEMENT FOR OBTAINING RELIABLE ANCHORING OF A THREADED IMPLANT IN BONE

(57) Abstract

In an arrangement for obtaining reliable anchoring of a threaded implant (3) in dentine, a hole (2) is made in the bone substance. In the side wall (2b) of the hole it is possible to establish an internal threading which can cooperate with an external threading (3d) on the implant. The implant threading is arranged to force the bone substance out in essentially radial directions as a function of the extent to which the implant is screwed into the hole. The threading is arranged to effect greater forcing out of the bone substance at the outer parts of the hole than at the inner parts of the hole. The degree of forcing out is adapted in relation to the softness of the bone in order to achieve the reliable anchoring. Along at least part of the longitudinal direction of the implant, the implant threading can be given a non-circular configuration for the purpose of obtaining improved rotational stability in soft/weak bone. The implant can also have two or more thread spirals/thread entries which shorten the time for screwing the implant into the hole and additionally offer tight threading which permits effective integration with the bone substance during the healing-in process.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
\mathbf{AU}	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	ТJ	Tajikistan
\mathbf{BE}	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	\mathbf{PL}	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		